MV1-D2048-160-CL

The camera series MV1-D2048(I/C)-160-CL is based on the CMOSIS CMV4000 CMOS image sensor

Features

- CMOSIS CMV4000 CMOS image sensor
- 2048 x 2048 pixel resolution
- Good NIR spectral response
- Suitable for standard and low light applications
- Up to 37fps @ full resolution
- Global shutter
- Available in monochrome, NIR and color
- Extended sensor and camera features
- Up to 10bit greyscale resolution
- Boardlevel and OEM solution available
- CameraLink® interface

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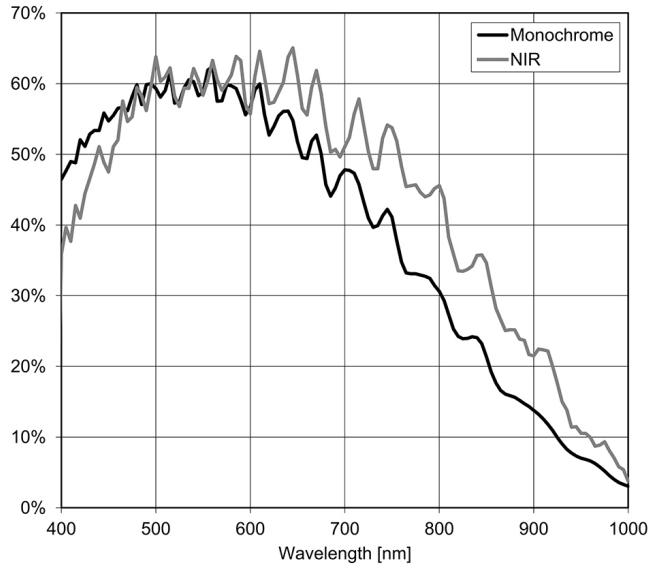
Quantum Efficiency Image Sensor



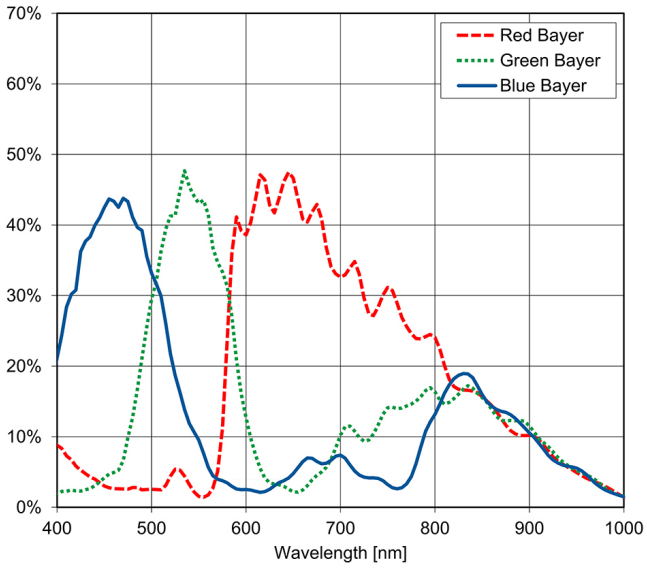


Image Sensor Specifications

Manufacturer / Type	CMOSIS, CMV4000
Technology	CMOS
Optical format	1"
Optical diagonal	15.92mm
Resolution	2048 x 2048
Pixel size	5.5µm x 5.5µm
Active optical area	11.26mm x 11.26mm
Dark current	125e-/s
Read out noise	13e-
Full well capacity / SNR	11ke- / 105:1
Spectral range	Monochrome: 350 to 950nm (to 10% of peak responsivity) NIR: 350 to 1000nm (to 10% of peak responsivity) Color: 380 to 670nm (to 10% of peak responsivity)
Responsivity	Monochrome: 1100 x 10^3 DN / (J/m²) @ 520nm / 8bit NIR: 900 x 10^3 DN / (J/m²) @ 850nm / 8bit Color: 857 x 10^3 DN / (J/m²) @ 540nm / 8bit
Quantum Efficiency	Monochrome: < 60% NIR: < 60% Color: < 45%
Optical fill factor	42% without micro lenses
Dynamic range	60dB
Characteristic curve	Linear, Piecewise linear
Shutter mode	Global shutter

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Camera Specifications

Interface	Camera Link
Frame rate	37fps
Pixel clock	80MHz
Camera taps	2
Greyscale resolution	8Bit / 10Bit
Fixed pattern noise (FPN)	< 1DN RMS @ 8Bit
Exposure time range	28µs - 419ms
Analog gain	yes
Digital gain	0.1 to 15.99 (FineGain)
Trigger Modes	Free running (non triggered), external Trigger, SWTrigger
Features	Configurable region of interest (ROI), Up to 8 regions of interest (MROI), Decimation in y-direction, 2 look-up tables (12-to-8Bit) on user-defined image region (Region-LUT), Constant frame rate adjustable by software, Crosshairs overlay on the image, Temperature monitoring of camera, Camera informations readable over SDK, Ultra low trigger delay and low trigger jitter, Extended trigger input and strobe output functionality, Status line in picture
Operation temperature / moisture	0°C ... + 50°C / 20% ... 80%
Storage temperature / moisture	-25°C ... 60°C / 20% ... 95%
Power supply	+12VDC (-10%) ... +12VDC (+10%)
Power consumption	< 4.2W
Lens mount	C-Mount (CS-Mount optional)
I/O Inputs	1x Opto-isolated
I/O Outputs	1x Opto-isolated
Dimensions	55 x 55 x 42mm³
Mass	230g
Connector I/O (Power)	Binder 7-pole (mating plug 99-0421-00-07)
Connector Interface	CameraLink Base (MDR)
Conformity	CE / RoHS / WEEE
IP Code	IP40

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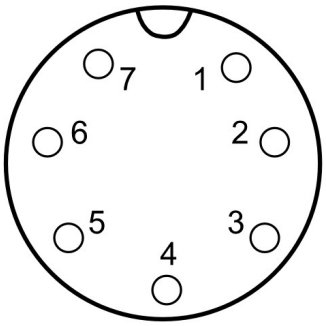
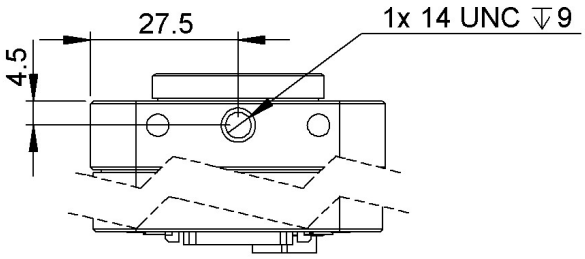
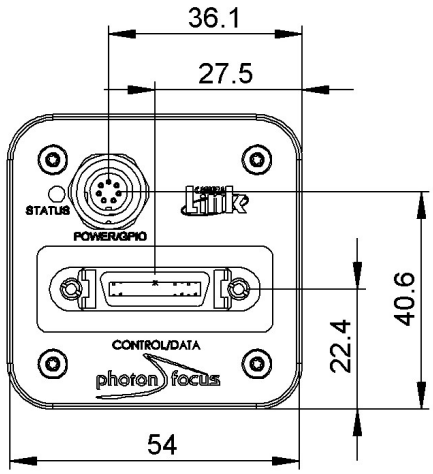
Connectors

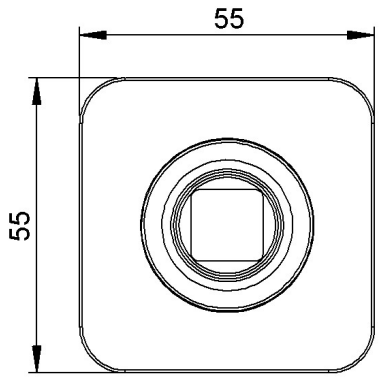
Pin	I/O Type	Name	Description
1	PWR	CAMERA_PWR	Camera Power 12VDC
2	PWR	CAMERA_GND	Camera GND 0V
3	O	RESERVED	Do not connect
4	PWR	STROBE-VDD	+5 ... +15 VDC
5	O	STROBE	Strobe control (opto-isolated)
6	I	TRIGGER	External trigger (opto-isolated), +5 .. +15VDC
7	PWR	GROUND	Signal ground (for opto-isolated strobe signal)

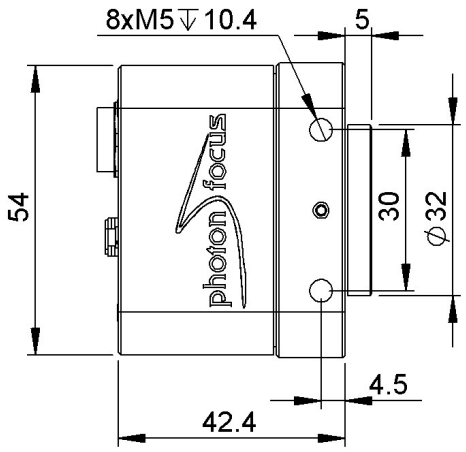


Dimensions









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Explanation

DN DigitalNumber (equals to LSB)

e^- Electrons

Order Information

MV1-D2048-160-CL-10	BW model
MV1-D2048I-160-CL-10	NIR model
MV1-D2048C-160-CL-10	Color imager model

Compatibility

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